ARINC AQP SCORECARD
TEST RESULTS/DATA

TEST_ID **25.001**

Airline: [redacted] Code:

AQP Phase: 3

- ☐ VDLM0 (POA) Tested
- ☐ VDLM0 (POA) Capable
- ☐ VDLMA (POA) Tested
- ☐ VDLMA (POA) Capable
- ☐ VDLM2 (AOA) Tested
- ☐ VDLM2 (AOA) Capable
- ☐ VDLM2 (ATN) Tested
- ☐ VDLM2 (ATN) Capable
- ☐ VDLMF Tested
- ☐ VDLMF Capable
- ☐ Classic Aero Satcom Tested
- ☐ Classic Aero Satcom Capable
- ☐ SB-S (Swift Broadband Safety) Tested
- ☐ SB-S (Swift Broadband Safety) Capable
- ☐ SB-S 2 (Enhanced SB-S) Tested
- ☐ SB-S 2 (Enhanced SB-S) Capable
- ☐ Iridium (Block 1) Tested
- ☐ Iridium (Block 1) Capable
- ☐ Iridium CERTUS Tested
- ☐ Iridium CERTUS Capable
- ☐ AOIP (ACARS Over IP) Tested
- ☐ AOIP (ACARS Over IP) Capable
- ☑ HFDL Tested
- ☑ HFDL Capable
- ☐ HF NEXT Tested
- ☐ HF NEXT Capable
- ☐ OTHER Tested
- ☐ OTHER Capable

Test Engineers' Initials: [redacted] **AQP Type:** Test (Test/Evaluation) **Reference:**

Test Dates: From: *1/7/2025* To: *1/16/2025*

Tested Configuration:

	Manufacturer	Spec	Model	Part #
[redacted]				
OTHER:				

[redacted]

Applicable Aircraft: [redacted]

VHF Status:		HF NEXT Status:		SATCOM Status:		IRIDIUM Cert Status:	
Letter Sent:		HFDL Status:	Failed	SBS Status:		IRIDIUM Status:	
Notes:		OTHER Media Status:		SBS2 Status:		ACARS Over IP Status:	

[redacted]

CMU HARDWARE

CMU AQP Status:

[redacted]

Service Functional Capability Level:

[redacted]

[redacted]

HW_Revision

[redacted]

[redacted]

☐ VDL Multi Frequency ☐ Co Channel Compliant

☐ Multi Bearer SATCOM ☐ OTHER

MU SOFTWARE PART NUMBERS

Comments:

HFDL HARDWARE

HFDL AQP Status: Failed

Vendor:	AEEC:	Unit Model:	Hardware Part Number:	Software Part Number:
[redacted]				
[redacted]				
[redacted]				
[redacted]				

Comments:

ARINC AQP SCORECARD
TEST RESULTS/DATA

TEST_ID **25.003**

Airline: [redacted] Code:

AQP Phase: 3

- ☐ VDLM0 (POA) Tested
- ☐ VDLM0 (POA) Capable
- ☑ VDLMA (POA) Tested
- ☑ VDLMA (POA) Capable
- ☑ VDLM2 (AOA) Tested
- ☑ VDLM2 (AOA) Capable
- ☐ VDLM2 (ATN) Tested
- ☐ VDLM2 (ATN) Capable
- ☑ VDLMF Tested
- ☑ VDLMF Capable
- ☐ Classic Aero Satcom Tested
- ☐ Classic Aero Satcom Capable
- ☐ SB-S (Swift Broadband Safety) Tested
- ☐ SB-S (Swift Broadband Safety) Capable
- ☐ SB-S 2 (Enhanced SB-S) Tested
- ☐ SB-S 2 (Enhanced SB-S) Capable
- ☐ Iridium (Block 1) Tested
- ☐ Iridium (Block 1) Capable
- ☐ Iridium CERTUS Tested
- ☐ Iridium CERTUS Capable
- ☐ AOIP (ACARS Over IP) Tested
- ☐ AOIP (ACARS Over IP) Capable
- ☐ HFDL Tested
- ☐ HFDL Capable
- ☐ HF NEXT Tested
- ☐ HF NEXT Capable
- ☐ OTHER Tested
- ☐ OTHER Capable

Test Engineers' Initials: [redacted] AQP Type: Test (Test/Evaluation) Reference:

Test Dates: From: *1/20/2025* To: *1/30/2025*

Tested Configuration:

[redacted]

Applicable Aircraft:

VHF Status: Pass HF NEXT Status: SATCOM Status: IRIDIUM Cert Status:

Letter Sent: HFDL Status: SBS Status: IRIDIUM Status:

OTHER Media Status: SBS2 Status: ACARS Over IP Status:

Collins Aerospace

TEST ID: 25.003

PHASE 3 AQP TEST RESULTS

☐ VHF TESTED?	☐ HF TESTED?	☐ SATCOM TESTED?	☐ IRIDIUM TESTED?
☐ VHF CAPABLE?	☐ HF CAPABLE?	☐ SATCOM CAPABLE?	☐ IRIDIUM CAPABLE?
☒ VDLMA TESTED?	☒ AOA TESTED?	☐ ATN TESTED?	☒ VDLMF TESTED?
☒ VDLMA CAPABLE?	☒ AOA CAPABLE?	☐ ATN CAPABLE?	☒ VDLMF CAPABLE?
☐ SB-S TESTED?	☐ AoIP TESTED?	☐ SB-S 2.0 TESTED?	
☐ SB-S CAPABLE?	☐ AoIP CAPABLE?	☐ SB-S 2.0 CAPABLE?	

Airline/Customer: [redacted]

Initial/Retest: ☐

Test Engineer: [redacted]

Test Dates: From: 1/20/25 To: 1/30/25

TESTED CONFIGURATION

[redacted]			
[redacted]			
[redacted]			
[redacted]			
[redacted]			

[redacted]

[redacted]	[redacted]		

Applicable Aircraft: [redacted]

Notes: ____

VHF AQP TEST RESULTS

OOOI EVENTS

DESCRIPTION	*REQUIREMENTS*	*Y/N*
Message Sequencing	Messages are downlinked in a logical order according to airline documentation.	____
Message Buffering	Messages are buffered when not acknowledged. and retransmitted when radio contact resumes.	____
Timers	OFF/ON events are delayed approximately 10 seconds.	____
Filters	IN/OUT events are delayed approximately 2 seconds.	____
Source	Source of OOOI events.	____
	If Digital 429, list peripheral(s).	____
OOOI Labels	MU uses standard QA-QV OOOI labels or unique. ON/OFF with Dept. & Dest.	____

Comments: ____

RETRANSMISSION INTERVAL

DESCRIPTION	*REQUIREMENTS*	*DATA: Time Between Transmissions Seconds)*						
Retransmissions	Downlinks are retransmitted	**Test #/Xmission**	**1&2**	**2&3**	**3&4**	**4&5**	**5&6**	**P/F**
	3-5 times at randomly spaced	1	13	19	12			P
	Intervals from 10 to 25 seconds	2	17	14	12			P
	before NOCOMM is displayed	3	15	16	23			P
		4	12	14	21			P

PREKEY TIME

DESCRIPTION	*REQUIREMENTS*	*DATA*
Unmodulated Carrier	1 millisecond maximum	
Transmission Time Prekey	85 milliseconds maximum	
Programmable Prekey	Is prekey programmable?	

Comments: ____

VHF AQP TEST RESULTS

MISCELLANEOUS

DESCRIPTION	*REQUIREMENTS*	*DATA (P/F)*
Protocol and Embedded ACKs	Avionics utilizes UBI/DBI protocol.	P
	If yes, protocol works correctly.	P
	Downlink retransmissions contain the same MSN before and after a NOCOMM condition.	P
	Avionics processes uplink with the same UBI within 10 minutes as a duplicate uplink.	P
	An embedded ACK to an uplink is changed to an embedded NAK in subsequent downlink retransmissions.	P
	Avionics properly handles embedded ACKS in uplink messages.	P
	Avionics provides embedded ACKS in downlink messages.	P
Comments: ____		
U/L & D/L Multiblock Processing	Avionics accepts and prints multiblock messages.	P
	Avionics accepts and displays multiblock messages.	P
	"INCOMPLETE MESSAGE" advisory given when subsequent blocks not received in 1.5 minutes.	P
	If part of a multiblock downlink has been acknowledged, and the avionics goes NOCOMM, the entire multiblock message is resent when COMM is regained.	P
Comments: ____		
Tracker Message	Tracker Message interval (minutes).	10:00
	Intervals are at 10 minutes and only in the absence of other downlinks.	P
	NOT sent while the aircraft is on the ground.	P
	Tracker Messages are not queued while the avionics is in voice mode.	P
	Tracker Timer reset by uplink ACK to a downlink.	P
Comments: ____		
Contact Message	Contact Message interval.	2:30
	Sent only is no uplink traffic is heard for a defined period of time.	P
	NOT sent while the aircraft is on the ground.	P
	Contact/Tracker used on alternate (autotune) frequency?	P
Comments: ____		

VHF AQP TEST RESULTS

CHANNEL ACCESS

DESCRIPTION	REQUIREMENTS	DATA (P/F)
Channel Access Algorithm	Will not transmit while receiving a 1200 Hz MSK modulated signal.	_____
	Will not transmit while receiving a 2400 Hz MSK modulated signal.	_____
	Will not transmit while receiving a random (1200/2400) MSK modulated signal.	_____
	Will not transmit while receiving actual traffic with 75ms prekey.	_____
	Must check for channel occupancy before transmitting an ACK to an uplink.	_____
Carrier Sense Multiple Access	The avionics implements a non-persistent CSMA algorithm.	_____

Comments: ____

AGENCY CODE, REGISTRATION NUMBER, AND FLIGHT NUMBER

DESCRIPTION	REQUIREMENTS	DATA (P/F)
Default Agency	Enter the default agency code source and list the agency code.	APMFMS _____
Agency Code Chars.	Will the avionics accept numeric characters for the agency code?	P
Default Reg #	Enter the default registration source and list the registration number.	APM _____
Flight Number	Flight numbers less than four characters are padded with leading zeros.	P
	Will the avionics accept alpha characters for the flight number?	P
AN/FI Address	Avionics supports both AN and FI addressing.	P

Comments: ____

ARINC EUROPEAN BASE FREQUENCY – 131.825 MHz

Is 131.825 present and enabled in the scan table?	P
Are tracker messages enabled on 131.825?	P
Are contact messages enabled on 131.825?	P
Does the avionics respond properly when autotune received while on 131.825?	P

VHF AQP TEST RESULTS

MULTI-MEDIA FUNCTIONS

DESCRIPTION	*REQUIREMENTS*	*DATA P/F*
Preferred Media & Simultaneous Media	MU uses VHF as preferred media and only communicates via SATCOM/HFDL when VHF is unavailable or when responding to an unsolicited SATCOM/HFDL U/L. MU always attempts to complete on media where originated.	_____
Multiblock D/L Handling	The MU correctly handles multiblock retransmission when changing media. Entire message is retransmitted. Original MSN is retained.	_____
VHF to SATCOM/HF	The avionics completes failed VHF transmissions on SATCOM/HF media and alerts the crew of the VHF NOCOMM conditions. Avionics sends downlinks via SATCOM/HF when In voice mode (if available).	_____
SATCOM/HF to VHF Transitions	The avionics monitors the available VHF frequencies and attempts to re-establish the VHF media (Label QO, SA, etc.).	_____
Automatic Link Establishment	MU automatically sends a QO downlink (followed by SA). via SATCOM whenever the SDU logs on. Same as VHF & HF.	_____
UBI/DBI Handling	The MU correctly maintains separate and independent UBI/DBI's for the VHF, SATCOM and HF links.	_____

622/623 PROTOCOL & FUNCTIONS

D/L Message Format	ATS messages are downlinked in proper format.	_____
U/L Message Format	Uplinks are checked for ATS format compliance.	_____
CRC	Downlinks contain proper CRC values.	_____
	Uplinks are tested for proper CRC values.	_____
	U/L messages w/o CRC or improper CRC are rejected.	_____
	Avionics accepts U/L's with or without ending CR/LF chars.	_____
ATS U/L Response	MU provides readback responses where appropriate (i.e., PDC Accept/Reject).	_____
Multiblock ATS Messages	MU properly handles multiblock ATS messages.	_____
Multiblock Prioritization	Avionics supports nesting of higher priority single block uplinks.	P
	Avionics supports nesting of higher priority multiblock uplinks.	P

Comments: ____

VHF AQP TEST RESULTS

STUCK CARRIER

DESCRIPTION	REQUIREMENTS	DATA (P/F)
Stuck Transmitter	Avionics does not exhibit any stuck transmitter as a result of power cycling or related testing.	_____

AUTOTUNE FUNCTIONS

DESCRIPTION	REQUIREMENTS	Label	#	Data (P/F)
ACK to Command	Avionics provides ACK to autotune command before changing frequency.			P
Channel Changeover	Avionics changes to frequency specified by Autotune command.			P
Link Tests on New Frequency	Avionics immediately conducts at least 3 link tests on the new frequency.	Q0	4	P
Return to Base Frequency and Conduct Link Test	Avionics returns to the base frequency immediately conducts at least 3 tests to re-establish communication.	Q0	4	P
Autotune to an Autotune	If the avionics was autotuned and a subsequent autotune is received, the avionics will correctly retune and return to the base frequency if unable to establish or maintain communication.			P

Multiblock Completed After a Nested Autotune:

Downlink w/o embedded ACK in autotune	P	with embedded ACK	P
Uplink w/o embedded ACK in autotune	P	with embedded ACK	_____

Power Interruption	Avionics recalls last autotuned frequency if 115VAC power is interrupted (>1 min.) and 28VDC is retained.			_____
	For how long will MU recall last autofreq with Both 115VAC and 28VDC removed?	_____		P
Frequency Tuning	Will the avionics tune between 118.000 MHz and 136.975 MHz?			_____

AOA AQP TEST RESULTS

DESCRIPTION		REQUIREMENTS		DATA P/F
Basic Link Establishment		Avionics correctly implements the basic link establishment.		P
Intramedia Switch and Debounce Timers		Scenario 1	From Base to AOA < 10 min	P
		Scenario 2	From Base to AOA > 10 min	P
		Scenario 3	From Autotune to AOA < 10 min	P
		Scenario 4	From Autotune to AOA > 10 min	P
Voice/Data Mode		Scenario 1: Voice mode < 4 min		P
		Scenario 2: Voice mode > 4 min < 10 min		P
		Scenario 3: Voice mode > 10 min		P
Handoff Sequence	Scenario 1	HO Signal Level		P
	Scenario 1A	HO Signal Level Different DSP		N/A
	Scenario 1B	HO Unanswered		P
	Scenario 1C	HO Unanswered Different DSP		N/A
	Scenario 1D	Uplink from Previous GS		P
	Scenario 2	HO attempt after Downlink Failure		P
	Scenario 2A	HO attempt after Downlink Failure Different DSP		N/A
	Scenario 5	HO attempt to PECT		P
	Scenario 6	HO Time Out		P
	Scenario 6A	HO Time Out Different DSP		N/A
Multimedia			Scenario 1	N/A
			Scenario 2	N/A
			Scenario 3	N/A
Maximum Delay Between Transmissions				P
Message Assembly Timer			Scenario 1	P
			Scenario 2	P
			Scenario 3	P

AOA AQP TEST RESULTS

DESCRIPTION	*REQUIREMENTS*	*DATA P/F*
UBI Reset Timer		_____
VAC1 Counter and VAT7 Timer		P
Retune and Autotune	POA to AOA Retune to CSC	P
	POA to AOA Retune to Alternate Frequency	P
	POA to AOA Retune Ignore Debounce Timer	P
	POA to AOA Retune Nested in Downlink	P
	POA to AOA Retune Nested in Uplink	P
	POA to AOA Retune with GS ICAO Address	P
	AOA to POA Autotune Base Frequency	P
	AOA to POA Autotune Alternate Frequency	P
	AOA to POA Autotune Debounce Timer	P
	AOA to POA Autotune Nested in Downlink	P
	AOA to POA Autotune Nested in Uplink	P
	AOA to POA Autotune Fall to POA Base	P

Comments:_____

Criss-Cross Uplink	Scenario 1	P
	Scenario 2	P
ICAO Addressing		_____

Comments:_____

VDL MULTI-FREQUENCY AQP TEST RESULTS

Test	Results	Pass	Fail	Comments
GRAIHO Test 1 – CSC to AltFreq	Avionics retuned to 136.750 _____ Avionics handed off to Radio B _____	P	____	____
GRAIHO Test 2 – AltFreq to CSC	Avionics retuned to 136.975 _____ Avionics handed off to Radio A _____	P	____	____
GRAIHO Test 3 – AltFreq1 to AltFreq2	Avionics retuned to 136.750 _____ Avionics handed off to Radio B _____ Avionics retuned to 136.800 _____ Avionics handed off to Radio C _____ Avionics retuned to 136.975 _____ Avionics established link to Radio A _____	P	____	____
GRAIHO Test 4 – to 1st GS in RGSL	Avionics retuned to 136.750 _____ Avionics handed off to Radio B _____	P	____	____
GRAIHO Test 5 – to last GS in RGSL	Avionics retuned to 136.750 _____ Avionics failed HO to non-existent Radio 1 _____ Avionics failed HO to non-existent Radio 2 _____ Avionics handed off to Radio B _____	P	____	____
GRAIHO Test 6 – w/ all optional parameters	Avionics retuned to 136.750 _____ Avionics handed off to Radio B _____	P	____	____
GRAIHO Test 7 – successive GRAIHOs	Avionics retuned to 136.750 _____ Avionics handed off to Radio B _____ Avionics retuned to 136.975 _____ Avionics handed off to Radio A _____	P	____	____
GRAIHO Test 8 – normal AIHO after GRAIHO	Avionics retuned to 136.750 _____ Avionics handed off to Radio B _____ Avionics handed off to Radio C _____	P	____	____
GRAIHO Test 9 – fallback to CSC after GRAIHO	Avionics retuned to 136.750 _____ Avionics handed off to Radio B _____ Avionics retuned to 136.975 _____ Avionics established link to Radio A _____	P	____	____
GRAIHO Test 11 – GRAIHO failure; fall back to CSC	Avionics retuned to 136.750 _____ Avionics failed HO to non-existent Radio 1 _____ Avionics retuned to 136.975 _____ Avionics established link with Radio A _____	P	____	____
GRAIHO Test 12 – GRAIHO failure to all GSs in RGSL; fallback to CSC	Avionics retuned to 136.750 _____ Avionics failed HO to non-existent Radio 1 _____ Avionics failed HO to non-existent Radio 2 _____ Avionics failed HO to non-existent Radio 3 _____ Avionics failed HO to non-existent Radio 4 _____ Avionics failed HO to non-existent Radio 5 _____ Avionics retuned to 136.975 _____ Avionics established link with Radio A _____	P	____	____

VDL MULTI-FREQUENCY AQP TEST RESULTS

Test	Results	Pass	Fail	Comments
GRAIHO Test 13 – GRAIHO failure to all GSs in RGSL; AIHO based on GSIF	Avionics retuned to 136.750 _____ Avionics failed HO to non-existent Radio 1 _____ Avionics failed HO to non-existent Radio 2 _____ Avionics failed HO to non-existent Radio 3 _____ Avionics failed HO to non-existent Radio 4 _____ Avionics failed HO to non-existent Radio 5 _____ Avionics handed off to Radio B _____	P	____	____
GRAIHO Test 14 – GRAIHO failure for all GSs in RGSL – frequency recovery based on FSL provided in GRAIHO	Avionics retuned to 136.750 _____ Avionics failed HO to non-existent Radio 1 _____ Avionics failed to HO non-existent Radio 2 _____ Avionics failed to HO non-existent Radio 3 _____ Avionics failed HO to non-existent Radio 4 _____ Avionics failed HO to non-existent Radio 5 _____ Avionics retuned to 136.975 _____ Avionics established link with Radio C _____	P	____	____
GRAIHO Test 15 – GRAIHO before RR	Avionics retuned to 136.750 _____ Avionics handed off to Radio B _____ Avionics completed downlink to Radio B _____	P	____	____

VDL MULTI-FREQUENCY AQP TEST RESULTS

Test	Results	Pass	Fail	Comments
FSL Test 1 – Successful FSL (retune to alt freq. matching airport coverage)	(On ground) avionics retuned to 136.750 _____ Avionics handed off to Radio B _____	P	____	____
FSL Test 2 – FSL ignored; non-matching airport	(On ground) avionics does NOT retune to 136.750 _____	P	____	____
FSL Test 3 – Successful FSL (landing and takeoff)	(On ground) avionics retuned to 136.750 _____ Avionics handed off to Radio B _____ (On takeoff) avionics retuned to 136.975 _____ Avionics handed off to Radio A _____	P	____	____
FSL Test 4 – Successful FSL (takeoff and landing even though non-matching airport)	(On ground) avionics retuned to 136.750 _____ Avionics handed off to Radio B _____ (On takeoff avionics retuned to 136.975 _____ Avionics handed off to Radio A _____	P	____	____
FSL Test 5 – Successful FSL retune to alt freq. with >1 GS in list	(On ground) avionics retuned to 136.750 _____ Avionics handed off to _____ Radio B or _____ Radio C (repeat test) (On ground) avionics retuned to 136.750 _____ Avionics handed off to _____ Radio B or _____ Radio C ***Repeat test until avionics has handed off to both Radio B and Radio C.***	P	____	____
FSL Test 6 – FSL ignored (AC in air, matching airport)	Avionics does NOT retune to 136.975 _____	P	____	____
FSL Test 7 – FSL ignored (AC in air, non-matching airport)	Avionics does NOT retune to 136.975 _____	P	____	____
FSL Test 8 – Successful FSL followed by normal air-initiated handoff	(On ground) avionics retuned to 136.750 _____ Avionics handed off to Radio B _____ (On takeoff) avionics retuned to 136.975 _____ Avionics handed off to Radio A _____ Avionics handed off to Radio C _____	P	____	____
FSL Test 9 – FSL retune fails; fallback to CSC	(On ground) avionics retuned to 136.750 _____ Avionics failed HO to non-existent Radio 1 _____ Avionics retuned to 136.975 _____ Avionics established link to Radio A _____	P	____	____

VDL MULTI-FREQUENCY AQP TEST RESULTS

Test	Results	Pass	Fail	Comments
FSL Test 10 – FSL retune to alt freq. fails with >1 GS in list; fallback to CSC	(On ground) avionics retuned to _____ 136.750 or _____ 136.800 Avionics fails to handoff to non-existent radio _____ Avionics retuned to _____ 136.750 or _____ 136.800 Avionics fails to handoff to non-existent radio _____ Avionics retuned to 136.975 _____ Avionics established link to Radio A _____	P	____	____
FSL Test 11 – FSL retune back to CSC after takeoff fails	(On ground) avionics retuned to 136.750 _____ Avionics handed off to Radio B _____ (On takeoff) avionics retuned to 136.975 _____ Avionics failed HO to non-existent Radio 1 _____ Avionics established link with Radio A _____	P	____	____
FSL Test 12 – Successful FSL retune to alt. freq. followed by fallback to CSC	(On ground) avionics retuned to 136.750 _____ Avionics handed off to Radio B _____ Avionics loses link with Radio B _____ Avionics falls back to 136.975 _____ Avionics established link with Radio A _____	P	____	____
FSL Test 13 – Frequency recovery – FSL ignored; AC in-air (matching airport, mismatch GND bit)	(In air) avionics did NOT retune to 136.750 _____ Avionics lost link with Radio A _____ Avionics returned to POA _____	P	____	____
FSL Test 14 – Frequency recovery – FSL ignored; AC in-air (non-matching airport), mismatch GND bit	(In air) avionics did NOT retune to 136.750 _____ Avionics lost link with Radio A _____ Avionics returned to POA _____	P	____	____
FSL Test 15 – Frequency recovery – FSL used; AC in-air (matching airport)	(In air) avionics lost link with Radio B _____ Avionics retuned to CSC _____ Avionics established link to Radio A _____	P	____	____
FSL Test 16 – Frequency recovery – FSL used; AC in-air (non-matching airport)	(In air) avionics lost link with Radio B _____ Avionics retuned to CSC _____ Avionics established link to Radio A _____	P	____	____
FSL Test 17 – Frequency recovery – FSL used; AC on ground on CSC (matching airport)	(On ground) avionics retuned to 136.750 _____ Avionics handed off to Radio B _____ Avionics lost link with Radio B _____ Avionics retuned to 136.975 _____ Avionics established link to Radio A _____	____	F	OK
FSL Test 18 – Frequency recovery – FSL used; AC on-ground (non-matching airport)	(On ground) avionics retuned to 136.750 _____ Avionics handed off to Radio B _____ Avionics lost link with Radio B _____ Avionics retuned to 136.975 _____ Avionics established link to Radio C _____	____	F	OK

VDL MULTI-FREQUENCY AQP TEST RESULTS

Test	Results	Pass	Fail	Comments
FSL Test 19 – Frequency recovery – FSL used; AC in-air on alt. freq; followed by GRAIHO	(In air) avionics retuned to 136.750 _____ Avionics handed off to Radio B _____ Avionics lost link with Radio B _____ Avionics retuned to CSC _____ Avionics established link to Radio A _____ Avionics retuned to 136.750 _____ Avionics handed off to Radio B _____	P	____	____
FSL Test 20 – Aircraft Air/Ground Bit	On ground – ground bit = 1 _____ In air – ground bit = 0 _____	P	____	____

VDL MULTI-FREQUENCY AQP TEST RESULTS

Test	Results	Pass	Fail	Comments
GIHO Test 1 – Successful GIHO on CSC	Avionics responded to GIHO from Radio B on 136.975 _____	P	____	____
GIHO Test 2 – Successful GIHO on altFreq	Avionics responded to GIHO from Radio C on 136.750 _____	P	____	____
GIHO Test 3 – GIHO with RGSL	Avionics handed off to Radio C from GIHO RGSL _____	P	____	____
GIHO Test 4 – Successful GIHO with all optional parameters	Avionics responded to GIHO from Radio B on 136.975 _____	P	____	____
GIHO Test 5 – Successful GIHO followed by another GIHO	Avionics responded to GIHO from Radio B on 136.975 _____ Avionics responded to GIHO from Radio C on 136.975 _____	P	____	____
GIHO Test 6 – Successful GIHO followed by fallback to CSC	Avionics responded to GIHO from Radio C on 136.750 _____ Avionics returned to 136.975 _____ Avionics sent XID_CMD_LE to Radio A on 136.975 _____	P	____	____
GIHO Test 7 – Successful GIHO followed by normal air-initiated handoff	Avionics responded to GIHO from Radio B on 136.975 _____ Avionics sent XID_CMD_HO to Radio C on 136.975 _____	P	____	____
GIHO Test 8 – GIHO retransmission	Avionics responded to GIHO from Radio B on 136.975 _____ Avionics responded to retransmitted GIHO from Radio B on 136.975 _____	P	____	____
GIHO Test 10 – Recovery after GIHO reject	Avionics responded to GIHO from Radio C on 136.975 _____ Avionics accepted DISC from Radio C on 136.975 _____ Avionics link with Radio B was not affected _____	P	____	____

ARINC AQP SCORECARD
TEST RESULTS/DATA

TEST_ID **25.004**

Airline: [redacted] Code:

AQP Phase: 3

- [x] VDLM0 (POA) Tested
- [x] VDLM0 (POA) Capable
- [x] VDLMA (POA) Tested
- [x] VDLMA (POA) Capable
- [x] VDLM2 (AOA) Tested
- [x] VDLM2 (AOA) Capable
- [ ] VDLM2 (ATN) Tested
- [x] VDLM2 (ATN) Capable
- [ ] VDLMF Tested
- [x] VDLMF Capable
- [ ] Classic Aero Satcom Tested
- [ ] Classic Aero Satcom Capable
- [ ] SB-S (Swift Broadband Safety) Tested
- [ ] SB-S (Swift Broadband Safety) Capable
- [x] SB-S 2 (Enhanced SB-S) Tested
- [x] SB-S 2 (Enhanced SB-S) Capable
- [ ] Iridium (Block 1) Tested
- [x] Iridium (Block 1) Capable
- [ ] Iridium CERTUS Tested
- [ ] Iridium CERTUS Capable
- [ ] AOIP (ACARS Over IP) Tested
- [ ] AOIP (ACARS Over IP) Capable
- [ ] HFDL Tested
- [x] HFDL Capable
- [ ] HF NEXT Tested
- [ ] HF NEXT Capable
- [ ] OTHER Tested
- [x] OTHER Capable IRIS

Test Engineers' Initials: [redacted] AQP Type: Test (Test/Evaluation) Reference: 18.046

Test Dates: From: *2/3/2025* To: *2/12/2025*

Tested Configuration:

	Manufacturer	Spec	Model	Part #
[redacted]				
OTHER:				

MU SOFTWARE PART NUMBERS

[redacted]

Applicable Aircraft: [redacted]

VHF Status:	Waived	HF NEXT Status:		SATCOM Status:	IRIDIUM Cert Status:
Letter Sent:		HFDL Status:		SBS Status:	IRIDIUM Status:
		OTHER Media Status:		SBS2 Status: Waived	ACARS Over IP Status:

CMU HARDWARE

[redacted]

[redacted] Service Functional Capability Level:

[redacted]

[redacted] HW_Revision

[redacted]

☐ VDL Multi Frequency ☐ Co Channel Compliant

☐ Multi Bearer SATCOM ☐ OTHER

MU SOFTWARE PART NUMBERS

[redacted]

Comments:

VHF HARDWARE

[redacted]

[redacted]

[redacted]

Core SW Part Number:

Other S/W Type S/W Part Number

Comments:

ENHANCED SWIFT BROADBAND HARDWARE

[redacted]

[redacted]

SBS2 Product Class:

Antenna:

[redacted]

SBU Type:

[redacted]

SBU HW Revision:

[redacted]

Smart Card Vendor:

Other SW Type	SW Part Number	RF Unit Type	Model Number	HW Part Number

COMMENTS:

ARINC AQP SCORECARD
TEST RESULTS/DATA

TEST_ID **25.007**

Airline: [redacted] Code:

AQP Phase: 3

- ☐ VDLM0 (POA) Tested
- ☐ VDLM0 (POA) Capable
- ☐ VDLMA (POA) Tested
- ☐ VDLMA (POA) Capable
- ☐ VDLM2 (AOA) Tested
- ☐ VDLM2 (AOA) Capable
- ☐ VDLM2 (ATN) Tested
- ☐ VDLM2 (ATN) Capable
- ☐ VDLMF Tested
- ☐ VDLMF Capable
- ☐ Classic Aero Satcom Tested
- ☐ Classic Aero Satcom Capable
- ☐ SB-S (Swift Broadband Safety) Tested
- ☐ SB-S (Swift Broadband Safety) Capable
- ☐ SB-S 2 (Enhanced SB-S) Tested
- ☐ SB-S 2 (Enhanced SB-S) Capable
- ☐ Iridium (Block 1) Tested
- ☐ Iridium (Block 1) Capable
- ☑ Iridium CERTUS Tested
- ☑ Iridium CERTUS Capable
- ☐ AOIP (ACARS Over IP) Tested
- ☐ AOIP (ACARS Over IP) Capable
- ☐ HFDL Tested
- ☐ HFDL Capable
- ☐ HF NEXT Tested
- ☐ HF NEXT Capable
- ☐ OTHER Tested
- ☐ OTHER Capable

Test Engineers' Initials: [redacted] AQP Type: Test (Test/Evaluation) Reference:

Test Dates: From: *1/17/2025* To: *2/14/2025*

Tested Configuration:

	Manufacturer	Spec	Model	Part #
	[redacted]			
VHF RADIO:				
OTHER:				

MU SOFTWARE PART NUMBERS

[redacted]

Applicable Aircraft:

VHF Status:		HF NEXT Status:		SATCOM Status:		IRIDIUM Cert Status:	Failed
Letter Sent:		HFDL Status:		SBS Status:		IRIDIUM Status:	
		OTHER Media Status:		SBS2 Status:		ACARS Over IP Status:	

IRIDIUM HARDWARE

IRIDIUM AQP Status: Failed

IRIDIUM SATELLITE DATA UNIT

Vendor:	[redacted]	Class:	[redacted]
Model:		Antenna:	[redacted]
H/W Part #:		Antenna Model:	
S/W Part #:		Antenna H/W Part #:	[redacted]

RF Unit Type	Model	HW Part Number	Other S/W Type	S/W Part Number

BCX MANUFACTURER	BCX MODEL	BCX FW #	CH #	CH TPE

COMMENTS:

[redacted]

ARINC AQP SCORECARD
TEST RESULTS/DATA

TEST_ID **25.010**

Airline: [redacted] Code:

AQP Phase: 3

☐ VDLM0 (POA) Tested	☐ Classic Aero Satcom Tested	☐ AOIP (ACARS Over IP) Tested
☐ VDLM0 (POA) Capable	☐ Classic Aero Satcom Capable	☐ AOIP (ACARS Over IP) Capable
☐ VDLMA (POA) Tested	☐ SB-S (Swift Broadband Safety) Tested	☑ HFDL Tested
☐ VDLMA (POA) Capable	☐ SB-S (Swift Broadband Safety) Capable	☑ HFDL Capable
☐ VDLM2 (AOA) Tested	☐ SB-S 2 (Enhanced SB-S) Tested	☐ HF NEXT Tested
☐ VDLM2 (AOA) Capable	☐ SB-S 2 (Enhanced SB-S) Capable	☐ HF NEXT Capable
☐ VDLM2 (ATN) Tested	☐ Iridium (Block 1) Tested	☐ OTHER Tested
☐ VDLM2 (ATN) Capable	☐ Iridium (Block 1) Capable	☐ OTHER Capable
☐ VDLMF Tested	☐ Iridium CERTUS Tested	
☐ VDLMF Capable	☐ Iridium CERTUS Capable	

Test Engineers' Initials: [redacted] AQP Type: Test (Test/Evaluation) Reference:

Test Dates: From: *3/12/2025* To: *3/14/2025*

Tested Configuration:

	Manufacturer	Spec	Model	Part #
[redacted]				
OTHER:				

[redacted]

Applicable Aircraft:

VHF Status:		HF NEXT Status:		SATCOM Status:		IRIDIUM Cert Status:	
Letter Sent:		HFDL Status:	Failed	SBS Status:		IRIDIUM Status:	
		OTHER Media Status:		SBS2 Status:		ACARS Over IP Status:	

HFDL HARDWARE

HFDL AQP Status: Failed

Vendor:	AEEC:	Unit Model:	Hardware Part Number:	Software Part Number:
[redacted]				

Comments:

[redacted]

ARINC AQP SCORECARD
TEST RESULTS/DATA

TEST_ID 25.012

Airline: [redacted] Code:

AQP Phase: 3

- ☐ VDLM0 (POA) Tested
- ☐ VDLM0 (POA) Capable
- ☐ VDLMA (POA) Tested
- ☐ VDLMA (POA) Capable
- ☐ VDLM2 (AOA) Tested
- ☐ VDLM2 (AOA) Capable
- ☐ VDLM2 (ATN) Tested
- ☐ VDLM2 (ATN) Capable
- ☐ VDLMF Tested
- ☐ VDLMF Capable
- ☐ Classic Aero Satcom Tested
- ☐ Classic Aero Satcom Capable
- ☐ SB-S (Swift Broadband Safety) Tested
- ☐ SB-S (Swift Broadband Safety) Capable
- ☐ SB-S 2 (Enhanced SB-S) Tested
- ☐ SB-S 2 (Enhanced SB-S) Capable
- ☐ Iridium (Block 1) Tested
- ☐ Iridium (Block 1) Capable
- ☑ Iridium CERTUS Tested
- ☑ Iridium CERTUS Capable
- ☐ AOIP (ACARS Over IP) Tested
- ☐ AOIP (ACARS Over IP) Capable
- ☐ HFDL Tested
- ☐ HFDL Capable
- ☐ HF NEXT Tested
- ☐ HF NEXT Capable
- ☐ OTHER Tested
- ☐ OTHER Capable

Test Engineers' Initials: [redacted] AQP Type: Test (Test/Evaluation) Reference:

Test Dates: From: *3/20/2025* To: *3/28/2025*

Tested Configuration:

	Manufacturer	Spec	Model	Part #
[redacted]				
VHF RADIO:				
OTHER:				

MU SOFTWARE PART NUMBERS

Applicable Aircraft:

VHF Status:		HF NEXT Status:		SATCOM Status:		IRIDIUM Cert Status:	Pass
Letter Sent:		HFDL Status:		SBS Status:		IRIDIUM Status:	
Notes:		OTHER Media Status:		SBS2 Status:		ACARS Over IP Status:	

[redacted]

IRIDIUM HARDWARE

IRIDIUM AQP Status: Pass

IRIDIUM SATELLITE DATA UNIT

[redacted]

[redacted]

RF Unit Type	Model	HW Part Number	Other S/W Type	S/W Part Number
[redacted]				

BCX MANUFACTURER	BCX MODEL	BCX FW #	CH #	CH TPE

COMMENTS:

[redacted]

ARINC AQP SCORECARD
TEST RESULTS/DATA

TEST_ID **25.013**

Airline: [redacted] **Code:**

AQP Phase: 3

- ☐ VDLM0 (POA) Tested
- ☐ VDLM0 (POA) Capable
- ☑ VDLMA (POA) Tested
- ☑ VDLMA (POA) Capable
- ☑ VDLM2 (AOA) Tested
- ☑ VDLM2 (AOA) Capable
- ☑ VDLM2 (ATN) Tested
- ☑ VDLM2 (ATN) Capable
- ☑ VDLMF Tested
- ☑ VDLMF Capable
- ☐ Classic Aero Satcom Tested
- ☐ Classic Aero Satcom Capable
- ☐ SB-S (Swift Broadband Safety) Tested
- ☐ SB-S (Swift Broadband Safety) Capable
- ☐ SB-S 2 (Enhanced SB-S) Tested
- ☐ SB-S 2 (Enhanced SB-S) Capable
- ☐ Iridium (Block 1) Tested
- ☐ Iridium (Block 1) Capable
- ☐ Iridium CERTUS Tested
- ☐ Iridium CERTUS Capable
- ☐ AOIP (ACARS Over IP) Tested
- ☐ AOIP (ACARS Over IP) Capable
- ☐ HFDL Tested
- ☐ HFDL Capable
- ☐ HF NEXT Tested
- ☐ HF NEXT Capable
- ☐ OTHER Tested
- ☐ OTHER Capable

Test Engineers' Initials: [redacted] **AQP Type:** Test (Test/Evaluation) **Reference:**

Test Dates: From: *3/31/2025* To: *4/11/2025*

Tested Configuration:

	Manufacturer	Spec	Model	Part #
	[redacted]			
VHF RADIO:				
OTHER:				

MU SOFTWARE PART NUMBERS

[redacted]

Applicable Aircraft:

VHF Status: **HF NEXT Status:** **SATCOM Status:** **IRIDIUM Cert Status:**

Letter Sent: **HFDL Status:** **SBS Status:** **IRIDIUM Status:**

Notes: **OTHER Media Status:** **SBS2 Status:** **ACARS Over IP Status:**

[redacted]

CMU HARDWARE

CMU AQP Status: Waived

[redacted] Service Functional Capability Level:

AEEC Spec:

[redacted] HW_Revision

[redacted] Core_SW_Part_Number:

- [x] VDL Multi Frequency
- [x] Co Channel Compliant
- [ ] Multi Bearer SATCOM
- [ ] OTHER

MU SOFTWARE PART NUMBERS

[redacted]

Comments:

Collins Aerospace

TEST ID: 25.013

PHASE 3 AQP TEST RESULTS

☐ VHF TESTED?	☐ HF TESTED?	☐ SATCOM TESTED?	☐ IRIDIUM TESTED?
☐ VHF CAPABLE?	☐ HF CAPABLE?	☐ SATCOM CAPABLE?	☐ IRIDIUM CAPABLE?
☒ VDLMA TESTED?	☒ AOA TESTED?	☐ ATN TESTED?	☒ VDLMF TESTED?
☒ VDLMA CAPABLE?	☒ AOA CAPABLE?	☒ ATN CAPABLE?	☒ VDLMF CAPABLE?
☐ SB-S TESTED?	☐ AoIP TESTED?	☐ SB-S 2.0 TESTED?	
☐ SB-S CAPABLE?	☐ AoIP CAPABLE?	☐ SB-S 2.0 CAPABLE?	

Airline/Customer: [redacted]

Initial/Retest: ☐

Test Engineer: [redacted]

Test Dates: From: 03/31/2025 To: 04/11/2025

TESTED CONFIGURATION

Unit	Manufacturer + Model	Hardware Part #	Serial #	Software Part #
[redacted]	[redacted]			

Additional CMU SOFTWARE PART NUMBERS:

[redacted]	[redacted]		

Applicable Aircraft: _____

Notes: ____

VHF AQP TEST RESULTS

OOOI EVENTS

DESCRIPTION	*REQUIREMENTS*	*Y/N*
Message Sequencing	Messages are downlinked in a logical order according to airline documentation.	____
Message Buffering	Messages are buffered when not acknowledged. and retransmitted when radio contact resumes.	____
Timers	OFF/ON events are delayed approximately 10 seconds.	____
Filters	IN/OUT events are delayed approximately 2 seconds.	____
Source	Source of OOOI events.	____
	If Digital 429, list peripheral(s).	____
OOOI Labels	MU uses standard QA-QV OOOI labels or unique. ON/OFF with Dept. & Dest.	____

Comments: ____

RETRANSMISSION INTERVAL

DESCRIPTION	*REQUIREMENTS*	*DATA: Time Between Transmissions Seconds)*						
Retransmissions	Downlinks are retransmitted	**Test #/Xmission**	**1&2**	**2&3**	**3&4**	**4&5**	**5&6**	**P/F**
	3-5 times at randomly spaced	1	21	24	18	10	10	P
	Intervals from 10 to 25 seconds	2	17	14	15	25	24	P
	before NOCOMM is displayed	3	16	10	10	11	17	P
		4	15	15	15	21	21	P

PREKEY TIME

DESCRIPTION	*REQUIREMENTS*	*DATA*
Unmodulated Carrier	1 millisecond maximum	
Transmission Time Prekey	85 milliseconds maximum	
Programmable Prekey	Is prekey programmable?	

Comments: ____

VHF AQP TEST RESULTS

MISCELLANEOUS

DESCRIPTION	*REQUIREMENTS*	*DATA (P/F)*
Protocol and Embedded ACKs	Avionics utilizes UBI/DBI protocol.	P
	If yes, protocol works correctly.	P
	Downlink retransmissions contain the same MSN before and after a NOCOMM condition.	P
	Avionics processes uplink with the same UBI within 10 minutes as a duplicate uplink.	P
	An embedded ACK to an uplink is changed to an embedded NAK in subsequent downlink retransmissions.	P
	Avionics properly handles embedded ACKS in uplink messages.	P
	Avionics provides embedded ACKS in downlink messages.	P
Comments: ____		
U/L & D/L Multiblock Processing	Avionics accepts and prints multiblock messages.	P
	Avionics accepts and displays multiblock messages.	P
	"INCOMPLETE MESSAGE" advisory given when subsequent blocks not received in 1.5 minutes.	P
	If part of a multiblock downlink has been acknowledged, and the avionics goes NOCOMM, the entire multiblock message is resent when COMM is regained.	P
Comments: ____		
Tracker Message	Tracker Message interval (minutes).	10:00
	Intervals are at 10 minutes and only in the absence of other downlinks.	P
	NOT sent while the aircraft is on the ground.	P
	Tracker Messages are not queued while the avionics is in voice mode.	N/A
	Tracker Timer reset by uplink ACK to a downlink.	P
Comments: ____		
Contact Message	Contact Message interval.	4:00
	Sent only is no uplink traffic is heard for a defined period of time.	P
	NOT sent while the aircraft is on the ground.	P
	Contact/Tracker used on alternate (autotune) frequency?	P
Comments: ____		

VHF AQP TEST RESULTS

CHANNEL ACCESS

DESCRIPTION	REQUIREMENTS	DATA (P/F)
Channel Access Algorithm	Will not transmit while receiving a 1200 Hz MSK modulated signal.	_____
	Will not transmit while receiving a 2400 Hz MSK modulated signal.	_____
	Will not transmit while receiving a random (1200/2400) MSK modulated signal.	_____
	Will not transmit while receiving actual traffic with 75ms prekey.	_____
	Must check for channel occupancy before transmitting an ACK to an uplink.	_____
Carrier Sense Multiple Access	The avionics implements a non-persistent CSMA algorithm.	_____

Comments: ____

AGENCY CODE, REGISTRATION NUMBER, AND FLIGHT NUMBER

DESCRIPTION	REQUIREMENTS	DATA (P/F)
Default Agency	Enter the default agency code source and list the agency code.	APM
Agency Code Chars.	Will the avionics accept numeric characters for the agency code?	_____
Default Reg #	Enter the default registration source and list the registration number.	APM
Flight Number	Flight numbers less than four characters are padded with leading zeros.	P
	Will the avionics accept alpha characters for the flight number?	P
AN/FI Address	Avionics supports both AN and FI addressing.	P

Comments: ____

ARINC EUROPEAN BASE FREQUENCY – 131.825 MHz

Is 131.825 present and enabled in the scan table?	_____
Are tracker messages enabled on 131.825?	_____
Are contact messages enabled on 131.825?	_____
Does the avionics respond properly when autotune received while on 131.825?	_____

VHF AQP TEST RESULTS

MULTI-MEDIA FUNCTIONS

DESCRIPTION	*REQUIREMENTS*	*DATA P/F*
Preferred Media & Simultaneous Media	MU uses VHF as preferred media and only communicates via SATCOM/HFDL when VHF is unavailable or when responding to an unsolicited SATCOM/HFDL U/L. MU always attempts to complete on media where originated.	_____
Multiblock D/L Handling	The MU correctly handles multiblock retransmission when changing media. Entire message is retransmitted. Original MSN is retained.	_____
VHF to SATCOM/HF	The avionics completes failed VHF transmissions on SATCOM/HF media and alerts the crew of the VHF NOCOMM conditions. Avionics sends downlinks via SATCOM/HF when In voice mode (if available).	_____
SATCOM/HF to VHF Transitions	The avionics monitors the available VHF frequencies and attempts to re-establish the VHF media (Label QO, SA, etc.).	_____
Automatic Link Establishment	MU automatically sends a QO downlink (followed by SA). via SATCOM whenever the SDU logs on. Same as VHF & HF.	_____
UBI/DBI Handling	The MU correctly maintains separate and independent UBI/DBI's for the VHF, SATCOM and HF links.	_____

622/623 PROTOCOL & FUNCTIONS

D/L Message Format	ATS messages are downlinked in proper format.	P
U/L Message Format	Uplinks are checked for ATS format compliance.	P
CRC	Downlinks contain proper CRC values.	P
	Uplinks are tested for proper CRC values.	P
	U/L messages w/o CRC or improper CRC are rejected.	P
	Avionics accepts U/L's with or without ending CR/LF chars.	P
ATS U/L Response	MU provides readback responses where appropriate (i.e., PDC Accept/Reject).	P
Multiblock ATS Messages	MU properly handles multiblock ATS messages.	P
Multiblock Prioritization	Avionics supports nesting of higher priority single block uplinks.	P
	Avionics supports nesting of higher priority multiblock uplinks.	P

Comments: ____

VHF AQP TEST RESULTS

STUCK CARRIER

DESCRIPTION	REQUIREMENTS	DATA (P/F)
Stuck Transmitter	Avionics does not exhibit any stuck transmitter as a result of power cycling or related testing.	____

AUTOTUNE FUNCTIONS

DESCRIPTION	REQUIREMENTS	Label	#	Data (P/F)
ACK to Command	Avionics provides ACK to autotune command before changing frequency.			P
Channel Changeover	Avionics changes to frequency specified by Autotune command.			P
Link Tests on New Frequency	Avionics immediately conducts at least 3 link tests on the new frequency.	Q0	6	P
Return to Base Frequency and Conduct Link Test	Avionics returns to the base frequency immediately conducts at least 3 tests to re-establish communication.	Q0	6	P
Autotune to an Autotune	If the avionics was autotuned and a subsequent autotune is received, the avionics will correctly retune and return to the base frequency if unable to establish or maintain communication.			P

Multiblock Completed After a Nested Autotune:

Downlink w/o embedded ACK in autotune P with embedded ACK P
Uplink w/o embedded ACK in autotune P with embedded ACK ____

Power Interruption	Avionics recalls last autotuned frequency if 115VAC power is interrupted (>1 min.) and 28VDC is retained.		NO AC
	For how long will MU recall last autofreq with Both 115VAC and 28VDC removed?	____	P
Frequency Tuning	Will the avionics tune between 118.000 MHz and 136.975 MHz?		P

AOA AQP TEST RESULTS

DESCRIPTION		REQUIREMENTS	DATA P/F
Basic Link Establishment		Avionics correctly implements the basic link establishment.	P
Intramedia Switch and Debounce Timers	Scenario 1	From Base to AOA < 10 min	P
	Scenario 2	From Base to AOA > 10 min	P
	Scenario 3	From Autotune to AOA < 10 min	P
	Scenario 4	From Autotune to AOA > 10 min	P
Voice/Data Mode		Scenario 1: Voice mode < 4 min	N/A
		Scenario 2: Voice mode > 4 min < 10 min	N/A
		Scenario 3: Voice mode > 10 min	N/A
Handoff Sequence	Scenario 1	HO Signal Level	P
	Scenario 1A	HO Signal Level Different DSP	P
	Scenario 1B	HO Unanswered	P
	Scenario 1C	HO Unanswered Different DSP	P
	Scenario 1D	Uplink from Previous GS	P
	Scenario 2	HO attempt after Downlink Failure	P
	Scenario 2A	HO attempt after Downlink Failure Different DSP	P
	Scenario 5	HO attempt to PECT	P
	Scenario 6	HO Time Out	P
	Scenario 6A	HO Time Out Different DSP	P
Multimedia		Scenario 1	____
		Scenario 2	____
		Scenario 3	____
Maximum Delay Between Transmissions			P
Message Assembly Timer		Scenario 1	P
		Scenario 2	P
		Scenario 3	P

AOA AQP TEST RESULTS

DESCRIPTION	*REQUIREMENTS*	*DATA P/F*
UBI Reset Timer		P
VAC1 Counter and VAT7 Timer		P
Retune and Autotune	POA to AOA Retune to CSC	P
	POA to AOA Retune to Alternate Frequency	P
	POA to AOA Retune Ignore Debounce Timer	P
	POA to AOA Retune Nested in Downlink	P
	POA to AOA Retune Nested in Uplink	P
	POA to AOA Retune with GS ICAO Address	N/A
	AOA to POA Autotune Base Frequency	P
	AOA to POA Autotune Alternate Frequency	P
	AOA to POA Autotune Debounce Timer	P
	AOA to POA Autotune Nested in Downlink	P
	AOA to POA Autotune Nested in Uplink	N/A
	AOA to POA Autotune Fall to POA Base	P

Comments:_____

Criss-Cross Uplink	Scenario 1	P
	Scenario 2	P
ICAO Addressing		_____

Comments:_____

VDL MULTI-FREQUENCY AQP TEST RESULTS

Test	Results	Pass	Fail	Comments
GRAIHO Test 1 – CSC to AltFreq	Avionics retuned to 136.750 _____ Avionics handed off to Radio B _____	P	____	____
GRAIHO Test 2 – AltFreq to CSC	Avionics retuned to 136.975 _____ Avionics handed off to Radio A _____	P	____	____
GRAIHO Test 3 – AltFreq1 to AltFreq2	Avionics retuned to 136.750 _____ Avionics handed off to Radio B _____ Avionics retuned to 136.800 _____ Avionics handed off to Radio C _____ Avionics retuned to 136.975 _____ Avionics established link to Radio A _____	P	____	____
GRAIHO Test 4 – to 1st GS in RGSL	Avionics retuned to 136.750 _____ Avionics handed off to Radio B _____	P	____	____
GRAIHO Test 5 – to last GS in RGSL	Avionics retuned to 136.750 _____ Avionics failed HO to non-existent Radio 1 _____ Avionics failed HO to non-existent Radio 2 _____ Avionics handed off to Radio B _____	P	____	____
GRAIHO Test 6 – w/ all optional parameters	Avionics retuned to 136.750 _____ Avionics handed off to Radio B _____	P	____	____
GRAIHO Test 7 – successive GRAIHOs	Avionics retuned to 136.750 _____ Avionics handed off to Radio B _____ Avionics retuned to 136.975 _____ Avionics handed off to Radio A _____	P	____	____
GRAIHO Test 8 – normal AIHO after GRAIHO	Avionics retuned to 136.750 _____ Avionics handed off to Radio B _____ Avionics handed off to Radio C _____	P	____	____
GRAIHO Test 9 – fallback to CSC after GRAIHO	Avionics retuned to 136.750 _____ Avionics handed off to Radio B _____ Avionics retuned to 136.975 _____ Avionics established link to Radio A _____	P	____	____
GRAIHO Test 11 – GRAIHO failure; fall back to CSC	Avionics retuned to 136.750 _____ Avionics failed HO to non-existent Radio 1 _____ Avionics retuned to 136.975 _____ Avionics established link with Radio A _____	P	____	____
GRAIHO Test 12 – GRAIHO failure to all GSs in RGSL; fallback to CSC	Avionics retuned to 136.750 _____ Avionics failed HO to non-existent Radio 1 _____ Avionics failed HO to non-existent Radio 2 _____ Avionics failed HO to non-existent Radio 3 _____ Avionics failed HO to non-existent Radio 4 _____ Avionics failed HO to non-existent Radio 5 _____ Avionics retuned to 136.975 _____ Avionics established link with Radio A _____	P	____	____

VDL MULTI-FREQUENCY AQP TEST RESULTS

Test	Results	Pass	Fail	Comments
GRAIHO Test 13 – GRAIHO failure to all GSs in RGSL; AIHO based on GSIF	Avionics retuned to 136.750 _____ Avionics failed HO to non-existent Radio 1 _____ Avionics failed HO to non-existent Radio 2 _____ Avionics failed HO to non-existent Radio 3 _____ Avionics failed HO to non-existent Radio 4 _____ Avionics failed HO to non-existent Radio 5 _____ Avionics handed off to Radio B _____	P	____	____
GRAIHO Test 14 – GRAIHO failure for all GSs in RGSL – frequency recovery based on FSL provided in GRAIHO	Avionics retuned to 136.750 _____ Avionics failed HO to non-existent Radio 1 _____ Avionics failed to HO non-existent Radio 2 _____ Avionics failed to HO non-existent Radio 3 _____ Avionics failed HO to non-existent Radio 4 _____ Avionics failed HO to non-existent Radio 5 _____ Avionics retuned to 136.975 _____ Avionics established link with Radio C _____	P	____	____
GRAIHO Test 15 – GRAIHO before RR	Avionics retuned to 136.750 _____ Avionics handed off to Radio B _____ Avionics completed downlink to Radio B _____	P	____	____

VDL MULTI-FREQUENCY AQP TEST RESULTS

Test	Results	Pass	Fail	Comments
FSL Test 1 – Successful FSL (retune to alt freq. matching airport coverage)	(On ground) avionics retuned to 136.750 _____ Avionics handed off to Radio B _____	P	____	____
FSL Test 2 – FSL ignored; non-matching airport	(On ground) avionics does NOT retune to 136.750 _____	P	____	____
FSL Test 3 – Successful FSL (landing and takeoff)	(On ground) avionics retuned to 136.750 _____ Avionics handed off to Radio B _____ (On takeoff) avionics retuned to 136.975 _____ Avionics handed off to Radio A _____	P	____	____
FSL Test 4 – Successful FSL (takeoff and landing even though non-matching airport)	(On ground) avionics retuned to 136.750 _____ Avionics handed off to Radio B _____ (On takeoff avionics retuned to 136.975 _____ Avionics handed off to Radio A _____	P	____	____
FSL Test 5 – Successful FSL retune to alt freq. with >1 GS in list	(On ground) avionics retuned to 136.750 _____ Avionics handed off to _____ Radio B or _____ Radio C (repeat test) (On ground) avionics retuned to 136.750 _____ Avionics handed off to _____ Radio B or _____ Radio C ***Repeat test until avionics has handed off to both Radio B and Radio C.***	____	F	NOT RANDOM
FSL Test 6 – FSL ignored (AC in air, matching airport)	Avionics does NOT retune to 136.975 _____	P	____	____
FSL Test 7 – FSL ignored (AC in air, non-matching airport)	Avionics does NOT retune to 136.975 _____	P	____	____
FSL Test 8 – Successful FSL followed by normal air-initiated handoff	(On ground) avionics retuned to 136.750 _____ Avionics handed off to Radio B _____ (On takeoff) avionics retuned to 136.975 _____ Avionics handed off to Radio A _____ Avionics handed off to Radio C _____	P	____	____
FSL Test 9 – FSL retune fails; fallback to CSC	(On ground) avionics retuned to 136.750 _____ Avionics failed HO to non-existent Radio 1 _____ Avionics retuned to 136.975 _____ Avionics established link to Radio A _____	P	____	____

VDL MULTI-FREQUENCY AQP TEST RESULTS

Test	Results	Pass	Fail	Comments
FSL Test 10 – FSL retune to alt freq. fails with >1 GS in list; fallback to CSC	(On ground) avionics retuned to _____ 136.750 or _____ 136.800 Avionics fails to handoff to non-existent radio _____ Avionics retuned to _____ 136.750 or _____ 136.800 Avionics fails to handoff to non-existent radio _____ Avionics retuned to 136.975 _____ Avionics established link to Radio A _____	_____	F	NOT RANDOM
FSL Test 11 – FSL retune back to CSC after takeoff fails	(On ground) avionics retuned to 136.750 _____ Avionics handed off to Radio B _____ (On takeoff) avionics retuned to 136.975 _____ Avionics failed HO to non-existent Radio 1 _____ Avionics established link with Radio A _____	P	_____	_____
FSL Test 12 – Successful FSL retune to alt. freq. followed by fallback to CSC	(On ground) avionics retuned to 136.750 _____ Avionics handed off to Radio B _____ Avionics loses link with Radio B _____ Avionics falls back to 136.975 _____ Avionics established link with Radio A _____	P	_____	_____
FSL Test 13 – Frequency recovery – FSL ignored; AC in-air (matching airport, mismatch GND bit)	(In air) avionics did NOT retune to 136.750 _____ Avionics lost link with Radio A _____ Avionics returned to POA _____	P	_____	_____
FSL Test 14 – Frequency recovery – FSL ignored; AC in-air (non-matching airport), mismatch GND bit	(In air) avionics did NOT retune to 136.750 _____ Avionics lost link with Radio A _____ Avionics returned to POA _____	P	_____	_____
FSL Test 15 – Frequency recovery – FSL used; AC in-air (matching airport)	(In air) avionics lost link with Radio B _____ Avionics retuned to CSC _____ Avionics established link to Radio A _____	P	_____	_____
FSL Test 16 – Frequency recovery – FSL used; AC in-air (non-matching airport)	(In air) avionics lost link with Radio B _____ Avionics retuned to CSC _____ Avionics established link to Radio A _____	P	_____	_____
FSL Test 17 – Frequency recovery – FSL used; AC on ground on CSC (matching airport)	(On ground) avionics retuned to 136.750 _____ Avionics handed off to Radio B _____ Avionics lost link with Radio B _____ Avionics retuned to 136.975 _____ Avionics established link to Radio A _____	_____	F	_____
FSL Test 18 – Frequency recovery – FSL used; AC on-ground (non-matching airport)	(On ground) avionics retuned to 136.750 _____ Avionics handed off to Radio B _____ Avionics lost link with Radio B _____ Avionics retuned to 136.975 _____ Avionics established link to Radio C _____	_____	F	_____

VDL MULTI-FREQUENCY AQP TEST RESULTS

Test	Results	Pass	Fail	Comments
FSL Test 19 – Frequency recovery – FSL used; AC in-air on alt. freq; followed by GRAIHO	(In air) avionics retuned to 136.750 _____ Avionics handed off to Radio B _____ Avionics lost link with Radio B _____ Avionics retuned to CSC _____ Avionics established link to Radio A _____ Avionics retuned to 136.750 _____ Avionics handed off to Radio B _____	P	____	____
FSL Test 20 – Aircraft Air/Ground Bit	On ground – ground bit = 1 _____ In air – ground bit = 0 _____	P	____	____

VDL MULTI-FREQUENCY AQP TEST RESULTS

Test	Results	Pass	Fail	Comments
GIHO Test 1 – Successful GIHO on CSC	Avionics responded to GIHO from Radio B on 136.975 _____	PP	____	____
GIHO Test 2 – Successful GIHO on altFreq	Avionics responded to GIHO from Radio C on 136.750 _____	____	____	____
GIHO Test 3 – GIHO with RGSL	Avionics handed off to Radio C from GIHO RGSL _____	____	F	____
GIHO Test 4 – Successful GIHO with all optional parameters	Avionics responded to GIHO from Radio B on 136.975 _____	P	____	____
GIHO Test 5 – Successful GIHO followed by another GIHO	Avionics responded to GIHO from Radio B on 136.975 _____ Avionics responded to GIHO from Radio C on 136.975 _____	P	____	____
GIHO Test 6 – Successful GIHO followed by fallback to CSC	Avionics responded to GIHO from Radio C on 136.750 _____ Avionics returned to 136.975 _____ Avionics sent XID_CMD_LE to Radio A on 136.975 _____	P	____	____
GIHO Test 7 – Successful GIHO followed by normal air-initiated handoff	Avionics responded to GIHO from Radio B on 136.975 _____ Avionics sent XID_CMD_HO to Radio C on 136.975 _____	P	____	____
GIHO Test 8 – GIHO retransmission	Avionics responded to GIHO from Radio B on 136.975 _____ Avionics responded to retransmitted GIHO from Radio B on 136.975 _____	P	____	____
GIHO Test 10 – Recovery after GIHO reject	Avionics responded to GIHO from Radio C on 136.975 _____ Avionics accepted DISC from Radio C on 136.975 _____ Avionics link with Radio B was not affected _____	P	____	____

ARINC AQP SCORECARD
TEST RESULTS/DATA

TEST_ID 25.014

Airline: [redacted] Code:

AQP Phase: 3

- ☐ VDLM0 (POA) Tested
- ☐ VDLM0 (POA) Capable
- ☐ VDLMA (POA) Tested
- ☐ VDLMA (POA) Capable
- ☐ VDLM2 (AOA) Tested
- ☐ VDLM2 (AOA) Capable
- ☐ VDLM2 (ATN) Tested
- ☐ VDLM2 (ATN) Capable
- ☐ VDLMF Tested
- ☐ VDLMF Capable
- ☑ Classic Aero Satcom Tested
- ☑ Classic Aero Satcom Capable
- ☐ SB-S (Swift Broadband Safety) Tested
- ☐ SB-S (Swift Broadband Safety) Capable
- ☐ SB-S 2 (Enhanced SB-S) Tested
- ☐ SB-S 2 (Enhanced SB-S) Capable
- ☐ Iridium (Block 1) Tested
- ☐ Iridium (Block 1) Capable
- ☐ Iridium CERTUS Tested
- ☐ Iridium CERTUS Capable
- ☐ AOIP (ACARS Over IP) Tested
- ☐ AOIP (ACARS Over IP) Capable
- ☐ HFDL Tested
- ☐ HFDL Capable
- ☐ HF NEXT Tested
- ☐ HF NEXT Capable
- ☐ OTHER Tested
- ☐ OTHER Capable

Test Engineers' Initials: [redacted] AQP Type: Test (Test/Evaluation) Reference: 24.009

Test Dates: From: 4/9/2025 To: 4/10/2025

Tested Configuration:

Manufacturer	Spec	Model	Part #
[redacted]			
[redacted]			
[redacted]			
[redacted]			
[redacted]			

Applicable Aircraft:

VHF Status: HF NEXT Status: SATCOM Status: Waived IRIDIUM Cert Status:

Letter Sent: HFDL Status: SBS Status: IRIDIUM Status:

OTHER Media Status: SBS2 Status: ACARS Over IP Status:

CMU HARDWARE

CMU AQP Status: Waived

[redacted] Service Functional Capability Level:

[redacted]

☐ VDL Multi Frequency ☐ Co Channel Compliant
☐ Multi Bearer SATCOM ☐ OTHER

MU SOFTWARE PART NUMBERS

[redacted]

Comments:

[redacted]

SATCOM HARDWARE

SATCOM AQP Status: Waived

[redacted]

	Unit Model	Hardware Part #	Software Part #
[redacted]			
RFU:			
HPA:			
HLD:			
OTHER:			

Comments:

[redacted]

ARINC AQP SCORECARD
TEST RESULTS/DATA

TEST_ID **25.017**

Airline: [redacted] Code:

AQP Phase: 3

- ☐ VDLM0 (POA) Tested
- ☐ VDLM0 (POA) Capable
- ☐ VDLMA (POA) Tested
- ☐ VDLMA (POA) Capable
- ☐ VDLM2 (AOA) Tested
- ☐ VDLM2 (AOA) Capable
- ☐ VDLM2 (ATN) Tested
- ☐ VDLM2 (ATN) Capable
- ☐ VDLMF Tested
- ☐ VDLMF Capable
- ☐ Classic Aero Satcom Tested
- ☐ Classic Aero Satcom Capable
- ☐ SB-S (Swift Broadband Safety) Tested
- ☐ SB-S (Swift Broadband Safety) Capable
- ☐ SB-S 2 (Enhanced SB-S) Tested
- ☐ SB-S 2 (Enhanced SB-S) Capable
- ☐ Iridium (Block 1) Tested
- ☐ Iridium (Block 1) Capable
- ☐ Iridium CERTUS Tested
- ☐ Iridium CERTUS Capable
- ☐ AOIP (ACARS Over IP) Tested
- ☐ AOIP (ACARS Over IP) Capable
- ☑ HFDL Tested
- ☑ HFDL Capable
- ☐ HF NEXT Tested
- ☐ HF NEXT Capable
- ☐ OTHER Tested
- ☐ OTHER Capable

Test Engineers' Initials: [redacted] AQP Type: Test (Test/Evaluation) Reference:

Test Dates: From: *4/14/2025* To: *4/25/2025*

Tested Configuration:

	Manufacturer	Spec	Model	Part #
[redacted]				
[redacted]				
[redacted]				

[redacted]

VHF Status: HF NEXT Status: SATCOM Status: IRIDIUM Cert Status:

Letter Sent: HFDL Status: Failed SBS Status: IRIDIUM Status:

Notes: OTHER Media Status: SBS2 Status: ACARS Over IP Status:

[redacted]

HFDL HARDWARE

HFDL AQP Status: Failed

Vendor:	AEEC:	Unit Model:	Hardware Part Number:	Software Part Number:
[redacted]				
[redacted]				

Comments:
[redacted]

ARINC AQP SCORECARD
TEST RESULTS/DATA

TEST_ID 25.018

Airline: [redacted] Code:

AQP Phase: 3

- ☐ VDLM0 (POA) Tested
- ☐ VDLM0 (POA) Capable
- ☐ VDLMA (POA) Tested
- ☐ VDLMA (POA) Capable
- ☐ VDLM2 (AOA) Tested
- ☐ VDLM2 (AOA) Capable
- ☐ VDLM2 (ATN) Tested
- ☐ VDLM2 (ATN) Capable
- ☐ VDLMF Tested
- ☐ VDLMF Capable
- ☐ Classic Aero Satcom Tested
- ☐ Classic Aero Satcom Capable
- ☐ SB-S (Swift Broadband Safety) Tested
- ☐ SB-S (Swift Broadband Safety) Capable
- ☐ SB-S 2 (Enhanced SB-S) Tested
- ☐ SB-S 2 (Enhanced SB-S) Capable
- ☐ Iridium (Block 1) Tested
- ☐ Iridium (Block 1) Capable
- ☑ Iridium CERTUS Tested
- ☑ Iridium CERTUS Capable
- ☐ AOIP (ACARS Over IP) Tested
- ☐ AOIP (ACARS Over IP) Capable
- ☐ HFDL Tested
- ☐ HFDL Capable
- ☐ HF NEXT Tested
- ☐ HF NEXT Capable
- ☐ OTHER Tested
- ☐ OTHER Capable

Test Engineers' Initials: [redacted] AQP Type: Test (Test/Evaluation) Reference:

Test Dates: From: 4/28/2025 To: 5/2/2025

Tested Configuration:

	Manufacturer	Spec	Model	Part #
[redacted]				

[redacted]

Applicable Aircraft:

VHF Status: HF NEXT Status: SATCOM Status: IRIDIUM Cert Status: Pass

Letter Sent: HFDL Status: SBS Status: IRIDIUM Status:

Notes: OTHER Media Status: SBS2 Status: ACARS Over IP Status:

[redacted]

IRIDIUM HARDWARE

IRIDIUM AQP Status: Pass

IRIDIUM SATELLITE DATA UNIT

[redacted]

BCX MANUFACTURER	BCX MODEL	BCX FW #	CH #	CH TPE

COMMENTS:

[redacted]

Collins Aerospace

TEST ID: 25.018

PHASE 3 AQP TEST RESULTS

☐ VHF TESTED?	☐ HF TESTED?	☐ SATCOM TESTED?	☐ IRIDIUM TESTED?
☐ VHF CAPABLE?	☐ HF CAPABLE?	☐ SATCOM CAPABLE?	☐ IRIDIUM CAPABLE?
☐ VDLMA TESTED?	☐ AOA TESTED?	☐ ATN TESTED?	☐ VDLMF TESTED?
☐ VDLMA CAPABLE?	☐ AOA CAPABLE?	☐ ATN CAPABLE?	☐ VDLMF CAPABLE?
☐ SB-S TESTED?	☐ AoIP TESTED?	☐ SB-S 2.0 TESTED?	
☐ SB-S CAPABLE?	☐ AoIP CAPABLE?	☐ SB-S 2.0 CAPABLE?	

Airline/Customer: [redacted]

Initial/Retest: ☐ *Test Engineer*: [redacted]

Test Dates: From: 4/28/25 To: 5/2/25

TESTED CONFIGURATION

Unit	Manufacturer + Model	Hardware Part #	Serial #	Software Part #
[redacted]				

Additional CMU SOFTWARE PART NUMBERS:

	Black Label	Red Label HW	
[redacted]			
	[redacted]		
[redacted]			
	[redacted]		
[redacted]			
	[redacted]		

Applicable Aircraft: _____

Notes: ____

Appendix A Iridium CERTUS AQP Data Sheet

Section	Description	Requirement	Result
Multi-media			
4.1.1	Preferred Media	CMU/MU uses VHF as preferred media and only Iridium/Inmarsat/HFDL when responding to an Iridium/Inmarsat/HFDL uplink.	
4.1.3	Simultaneous Media	CMU/MU always attempts to complete on the medium where the message was originated.	
4.1.5	VHF to Iridium/Inmarsat/HF	The avionics restarted failed VHF transmissions on Iridium/Inmarsat/HF media and alerts the crew of the VHF NOCOMM conditions.	
4.1.7	Iridium/Inmarsat/HF to VHF	The avionics monitors the available VHF frequencies and attempts to reestablish the VHF medium. (Label Q0, SA, etc.).	
4.1.9	VHF Voice to Iridium	Avionics sends downlinks via Iridium when in VHF voice mode.	
4.1.11	Automatic Link Establishment	MU automatically sends a Q0 downlink followed by an SA via Iridium whenever the Iridium unit logs on. This may be an SA ES if the MU thinks it is connected to SATCOM. Same as VHF and HF.	P
4.1.13	UBI/DBI Handling	The MU correctly maintains separate and independent UBI/DBI's for the VHF, HF, and Iridium links.	
SDU Configuration and Installation			
4.2.1	ORT Contents	All required ORT contents are available, and settings SDU settings/features are identified.	
4.2.3	Dual SATCOM ORT Settings	Dual SATCOM ORT settings are available and Dual SATCOM configuration is identified.	
4.2.5	ORT Data Loading	The ORT is able to be loaded to the SDU via data loader or other means.	P
Dual SATCOM			
4.3.1	Dual Power-up Sequence	SDUs determine their settings correctly upon power-up and handle mode settings and parity conflicts appropriately.	

4.3.3	Dual Independent	General dual SATCOM operating principles are being followed, and there is minimal or no interaction between the two SDU systems.	
4.3.5	Dual Cold Standby	General dual SATCOM operating principles are being followed, and the SDU operates correctly in cold standby mode.	
4.3.7	Dual Warm Standby	General dual SATCOM operating principles are being followed, and the SDU operates correctly in warm standby mode.	
4.3.9	Dual Hot Standby	General dual SATCOM operating principles are being followed, and the SDU operates correctly in hot standby mode.	
4.3.11	Dual Cooperative	General dual SATCOM operating principles are being followed, and the SDU operates correctly in dual cooperative mode.	
429 Data Bus			
4.4.1	Subsystem Identifier Word	The SDU properly identifies itself to the CMU/MU as an Iridium CERTUS unit.	P
4.4.3	SATCOM Available	The SDU does not announce SATCOM availability when there is no signal.	P
4.4.5	SACTOM Voice Available	The SDU does not announce SATCOM Voice availability when there is no signal or connectivity.	
4.4.7	SATCOM Standby Mode	The SDU properly indicates the communication status while in standby mode.	
4.4.9	Selective Calling	The SDU indicates that a new cockpit voice circuit has been established.	
4.4.11	SATCOM Voice Alert	The SDU properly indicates that a high priority calls are being detected.	
4.4.13	SATCOM Select "Auto" Mode	The SDU performs the proper handover request on the crosstalk bus in a dual SATCOM configuration.	
4.4.15	Crosstalk Protocol	The SDU performs the proper communication over the crosstalk bus in a dual SATCOM configuration.	
4.4.17	High/Low Data Bus Speed	SDU uses proper 429 protocol for both high and low speeds.	

End to End			
4.5.1	Uplink Messages	All uplink messages transfer to the CMU/MU in the proper format.	P
4.5.3	Multi-block Uplink Messages	All multi-block messages transfer through the CMU/MU and to/from the ground end system in the proper format.	P
4.5.5	Iridium Burst Size	Uplink messages are not delayed, regardless of time interval or message size.	P
4.5.7	ATS Messages	The SDU processes ATS messages over iridium CERTUS.	P
4.5.9	Downlink Messages	All downlink messages transfer to the ground end system in the proper format.	P
4.5.11	Downlink Message Queue	Downlink message queue is sent correctly after an extended satellite disconnect.	P
4.5.13	Downlink Retransmissions	Downlink messages are retransmitted properly if an acknowledgement is not received from the ground.	
4.5.15	Downlink Retransmissions Counter	Downlink messages are retransmitted the correct number of times at the correct interval when acknowledgements are not received from the ground.	
4.5.17	Simultaneous Uplink/Downlink Transmissions	The avionics receives uplinks and transmits downlink simultaneously without delaying or losing messages.	P
4.5.19	CERTUS Voice Mode	The SDU supports simultaneous use of voice and ACARS operation.	
4.5.21	CERTUS Data Mode	The SDU supports simultaneous use of ACARS and non-ACARS data operation.	
4.5.23	Simultaneous CERTUS Voice & Data Mode	The SDU supports simultaneous use of ACARS, Voice, and non-ACARS data operation.	
4.5.25	Mismatched Tail	The avionics do not process messages addressed to another aircraft tail number.	
4.5.27	Message Source	All ACARS messages are routed through the CMU/MU. The SDU should not generate ACARS messages.	P
4.5.29	GES Queue Timer	The avionics do not acknowledge any ACARS messages (over Iridium) older than 300 seconds.	

Stress/Hardness			
4.6.1	Integrated Stress	The CMU/MU and the SDU remained stable and did not show any strange behavior during stress testing.	P
4.6.5	Integrated Hardness	The CMU/MU and the SDU remained stable and did not show any strange behavior during hardness testing.	P
4.6.9	Uplink/Downlink Performance	The scored uplink success was at least 98%.	P

TEST NOTES	
Section	**Observations and Problem Description**

ARINC AQP SCORECARD
TEST RESULTS/DATA

TEST_ID 25.019

Airline: [redacted] Code:

AQP Phase: 3

☐ VDLM0 (POA) Tested	☐ Classic Aero Satcom Tested	☐ AOIP (ACARS Over IP) Tested
☐ VDLM0 (POA) Capable	☐ Classic Aero Satcom Capable	☐ AOIP (ACARS Over IP) Capable
☐ VDLMA (POA) Tested	☐ SB-S (Swift Broadband Safety) Tested	☐ HFDL Tested
☐ VDLMA (POA) Capable	☐ SB-S (Swift Broadband Safety) Capable	☐ HFDL Capable
☐ VDLM2 (AOA) Tested	☐ SB-S 2 (Enhanced SB-S) Tested	☐ HF NEXT Tested
☐ VDLM2 (AOA) Capable	☐ SB-S 2 (Enhanced SB-S) Capable	☐ HF NEXT Capable
☐ VDLM2 (ATN) Tested	☐ Iridium (Block 1) Tested	☐ OTHER Tested
☐ VDLM2 (ATN) Capable	☐ Iridium (Block 1) Capable	☐ OTHER Capable
☐ VDLMF Tested	☑ Iridium CERTUS Tested	
☐ VDLMF Capable	☑ Iridium CERTUS Capable	

Test Engineers' Initials: [redacted] AQP Type: Test (Test/Evaluation) Reference:

Test Dates: From: *4/28/2025* To: *5/2/2025*

Tested Configuration:

	Manufacturer	Spec	Model	Part #
[redacted]				
[redacted]				
[redacted]				
[redacted]				

Applicable Aircraft:

VHF Status: HF NEXT Status: SATCOM Status: IRIDIUM Cert Status: Pass

Letter Sent: HFDL Status: SBS Status: IRIDIUM Status:

Notes: OTHER Media Status: SBS2 Status: ACARS Over IP Status:

[redacted]

IRIDIUM HARDWARE

IRIDIUM AQP Status: Pass

IRIDIUM SATELLITE DATA UNIT

[redacted]

BCX MANUFACTURER	BCX MODEL	BCX FW #	CH #	CH TPE

COMMENTS:

[redacted]

Collins Aerospace

TEST ID: 25.019

PHASE 3 AQP TEST RESULTS

☐ VHF TESTED?	☐ HF TESTED?	☐ SATCOM TESTED?	☐ IRIDIUM TESTED?
☐ VHF CAPABLE?	☐ HF CAPABLE?	☐ SATCOM CAPABLE?	☐ IRIDIUM CAPABLE?
☐ VDLMA TESTED?	☐ AOA TESTED?	☐ ATN TESTED?	☐ VDLMF TESTED?
☐ VDLMA CAPABLE?	☐ AOA CAPABLE?	☐ ATN CAPABLE?	☐ VDLMF CAPABLE?
☐ SB-S TESTED?	☐ AoIP TESTED?	☐ SB-S 2.0 TESTED?	
☐ SB-S CAPABLE?	☐ AoIP CAPABLE?	☐ SB-S 2.0 CAPABLE?	

Airline/Customer: [redacted]

Initial/Retest: ☐ *Test Engineer*: [redacted]

Test Dates: From: 4/28/25 To: 5/2/25

TESTED CONFIGURATION

Unit	Manufacturer + Model	Hardware Part #	Serial #	Software Part #
[redacted]	[redacted]			

Additional CMU SOFTWARE PART NUMBERS:

	[redacted]		
[redacted]			
[redacted]		[redacted]	
[redacted]		[redacted]	

Applicable Aircraft: _____

Notes: ____

Appendix A Iridium CERTUS AQP Data Sheet

Section	Description	Requirement	Result
Multi-media			
4.1.1	Preferred Media	CMU/MU uses VHF as preferred media and only Iridium/Inmarsat/HFDL when responding to an Iridium/Inmarsat/HFDL uplink.	
4.1.3	Simultaneous Media	CMU/MU always attempts to complete on the medium where the message was originated.	
4.1.5	VHF to Iridium/Inmarsat/HF	The avionics restarted failed VHF transmissions on Iridium/Inmarsat/HF media and alerts the crew of the VHF NOCOMM conditions.	
4.1.7	Iridium/Inmarsat/HF to VHF	The avionics monitors the available VHF frequencies and attempts to reestablish the VHF medium. (Label Q0, SA, etc.).	
4.1.9	VHF Voice to Iridium	Avionics sends downlinks via Iridium when in VHF voice mode.	
4.1.11	Automatic Link Establishment	MU automatically sends a Q0 downlink followed by an SA via Iridium whenever the Iridium unit logs on. This may be an SA ES if the MU thinks it is connected to SATCOM. Same as VHF and HF.	P
4.1.13	UBI/DBI Handling	The MU correctly maintains separate and independent UBI/DBI's for the VHF, HF, and Iridium links.	
SDU Configuration and Installation			
4.2.1	ORT Contents	All required ORT contents are available, and settings SDU settings/features are identified.	
4.2.3	Dual SATCOM ORT Settings	Dual SATCOM ORT settings are available and Dual SATCOM configuration is identified.	
4.2.5	ORT Data Loading	The ORT is able to be loaded to the SDU via data loader or other means.	P
Dual SATCOM			
4.3.1	Dual Power-up Sequence	SDUs determine their settings correctly upon power-up and handle mode settings and parity conflicts appropriately.	

4.3.3	Dual Independent	General dual SATCOM operating principles are being followed, and there is minimal or no interaction between the two SDU systems.	
4.3.5	Dual Cold Standby	General dual SATCOM operating principles are being followed, and the SDU operates correctly in cold standby mode.	
4.3.7	Dual Warm Standby	General dual SATCOM operating principles are being followed, and the SDU operates correctly in warm standby mode.	
4.3.9	Dual Hot Standby	General dual SATCOM operating principles are being followed, and the SDU operates correctly in hot standby mode.	
4.3.11	Dual Cooperative	General dual SATCOM operating principles are being followed, and the SDU operates correctly in dual cooperative mode.	
429 Data Bus			
4.4.1	Subsystem Identifier Word	The SDU properly identifies itself to the CMU/MU as an Iridium CERTUS unit.	P
4.4.3	SATCOM Available	The SDU does not announce SATCOM availability when there is no signal.	P
4.4.5	SACTOM Voice Available	The SDU does not announce SATCOM Voice availability when there is no signal or connectivity.	
4.4.7	SATCOM Standby Mode	The SDU properly indicates the communication status while in standby mode.	
4.4.9	Selective Calling	The SDU indicates that a new cockpit voice circuit has been established.	
4.4.11	SATCOM Voice Alert	The SDU properly indicates that a high priority calls are being detected.	
4.4.13	SATCOM Select "Auto" Mode	The SDU performs the proper handover request on the crosstalk bus in a dual SATCOM configuration.	
4.4.15	Crosstalk Protocol	The SDU performs the proper communication over the crosstalk bus in a dual SATCOM configuration.	
4.4.17	High/Low Data Bus Speed	SDU uses proper 429 protocol for both high and low speeds.	

End to End			
4.5.1	Uplink Messages	All uplink messages transfer to the CMU/MU in the proper format.	P
4.5.3	Multi-block Uplink Messages	All multi-block messages transfer through the CMU/MU and to/from the ground end system in the proper format.	P
4.5.5	Iridium Burst Size	Uplink messages are not delayed, regardless of time interval or message size.	P
4.5.7	ATS Messages	The SDU processes ATS messages over iridium CERTUS.	P
4.5.9	Downlink Messages	All downlink messages transfer to the ground end system in the proper format.	P
4.5.11	Downlink Message Queue	Downlink message queue is sent correctly after an extended satellite disconnect.	P
4.5.13	Downlink Retransmissions	Downlink messages are retransmitted properly if an acknowledgement is not received from the ground.	
4.5.15	Downlink Retransmissions Counter	Downlink messages are retransmitted the correct number of times at the correct interval when acknowledgements are not received from the ground.	
4.5.17	Simultaneous Uplink/Downlink Transmissions	The avionics receives uplinks and transmits downlink simultaneously without delaying or losing messages.	P
4.5.19	CERTUS Voice Mode	The SDU supports simultaneous use of voice and ACARS operation.	
4.5.21	CERTUS Data Mode	The SDU supports simultaneous use of ACARS and non-ACARS data operation.	
4.5.23	Simultaneous CERTUS Voice & Data Mode	The SDU supports simultaneous use of ACARS, Voice, and non-ACARS data operation.	
4.5.25	Mismatched Tail	The avionics do not process messages addressed to another aircraft tail number.	
4.5.27	Message Source	All ACARS messages are routed through the CMU/MU. The SDU should not generate ACARS messages.	P
4.5.29	GES Queue Timer	The avionics do not acknowledge any ACARS messages (over Iridium) older than 300 seconds.	

Stress/Hardness			
4.6.1	Integrated Stress	The CMU/MU and the SDU remained stable and did not show any strange behavior during stress testing.	P
4.6.5	Integrated Hardness	The CMU/MU and the SDU remained stable and did not show any strange behavior during hardness testing.	P
4.6.9	Uplink/Downlink Performance	The scored uplink success was at least 98%.	P

TEST NOTES	
Section	**Observations and Problem Description**

ARINC AQP SCORECARD
TEST RESULTS/DATA

TEST_ID **25.036**

Airline: [redacted] Code:

AQP Phase: 3

- ☐ VDLM0 (POA) Tested
- ☐ VDLM0 (POA) Capable
- ☐ VDLMA (POA) Tested
- ☐ VDLMA (POA) Capable
- ☑ VDLM2 (AOA) Tested
- ☑ VDLM2 (AOA) Capable
- ☑ VDLM2 (ATN) Tested
- ☑ VDLM2 (ATN) Capable
- ☑ VDLMF Tested
- ☑ VDLMF Capable
- ☑ Classic Aero Satcom Tested
- ☑ Classic Aero Satcom Capable
- ☐ SB-S (Swift Broadband Safety) Tested
- ☐ SB-S (Swift Broadband Safety) Capable
- ☐ SB-S 2 (Enhanced SB-S) Tested
- ☐ SB-S 2 (Enhanced SB-S) Capable
- ☐ Iridium (Block 1) Tested
- ☐ Iridium (Block 1) Capable
- ☐ Iridium CERTUS Tested
- ☐ Iridium CERTUS Capable
- ☐ AOIP (ACARS Over IP) Tested
- ☐ AOIP (ACARS Over IP) Capable
- ☑ HFDL Tested
- ☑ HFDL Capable
- ☐ HF NEXT Tested
- ☐ HF NEXT Capable
- ☐ OTHER Tested
- ☐ OTHER Capable

Test Engineers' Initials: [redacted] AQP Type: Test (Test/Evaluation) Reference:

Test Dates: From: *9/15/2025* To: *9/26/2025*

Tested Configuration:

	Manufacturer	Spec	Model	Part #
[redacted]				
[redacted]				
OTHER:				

MU SOFTWARE PART NUMBERS

[redacted]

Applicable Aircraft:

VHF Status: Pass | HF NEXT Status: | SATCOM Status: | IRIDIUM Cert Status:

Letter Sent: | HFDL Status: | SBS Status: | IRIDIUM Status:

Notes: | OTHER Media Status: | SBS2 Status: | ACARS Over IP Status:

[redacted]

CMU HARDWARE

CMU AQP Status:

CMU Type:

Service Functional Capability Level:

AEEC Spec:

[redacted]

HW_Revision

[redacted]

☐ VDL Multi Frequency
☐ Co Channel Compliant
☐ Multi Bearer SATCOM
☐ OTHER

MU SOFTWARE PART NUMBERS

[redacted]

Comments:

VHF HARDWARE

VHF AQP Status: Pass

[redacted]

[redacted]

[redacted]

Core SW Part Number:

Other S/W Type S/W Part Number

Comments: